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BEFORE THE
Federal Communications Commission

WASHINGTON, D. C.

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of

Amendment of the Commission's
Rules to Establish New
Personal Communications
Services

Gen Docket No. 90-314
ET Docket No. 92-100

REPLY COMMENTS
OF THE

CELLULAR TELECOMMUNICATIONS INDUSTRY ASSOCIATION

Michael F. Altschul
Michele C. Farquhar

Cellular Telecommunications
Industry Association

Philip L. Verveer
Sue D. Blumenfeld
Francis M. Buono
Willkie Farr & Gallagher
1155 21st Street, N.W.
Suite 600
Washington, D.C. 20036-3384

Of Counsel

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SUMMARY

Much of the debate stemming from the Commission's PCS Notice has engendered a number of myths which, unfortunately, have obfuscated the central principles which should guide the Commission's decisions on PCS licensing. These myths are:

- 20 MHz per PCS licensee is insufficient;
- PCS can't support five market participants per service area;
- Cellular MSAs/RSAs are too small to serve as PCS service areas;
- Cellular providers already possess sufficient spectrum to provide competitive PCS services; and
- The cellular industry is insufficiently competitive and will preempt new PCS entrants due to its incumbent advantages;

CTIA refutes each of these myths in these Reply Comments.

- 20 MHz per PCS licensee is sufficient.

20 MHz PCS blocks will best promote robust competition while simultaneously affording significant flexibility for market correction. Conversely, it could be more difficult and costly to build down from "oversized" spectrum blocks. If, for example, the Commission were to assign 30 MHz to each of three PCS licensees and it turns out that PCS can be done most efficiently in 20 MHz, then a scarce and valuable resource will be underutilized. Further, the comments have suggested no workable mechanism to drive PCS licensees in such circumstances to dispossess themselves of their highly coveted, albeit wasted, excess spectrum.

Those arguing that 20 MHz is insufficient for PCS underestimate available PCS spectral capacity by making pessimistic

assumptions about microwave interference. Thus, for example, APC's spectrum study, which is often touted as support for the myth that 20 MHz is not enough for PCS licensees, bases its conclusions on the unrealistic assumption that no microwave operators will relocate. It also assumes overly conservative guard bands. Most importantly, the APC spectrum study is based upon a method of interference calculation it openly disavows and which is wholly inconsistent with its patented FAST technology.

Third, APC's study fails to point out that the microwave interference problem is not nearly as universal as APC would otherwise have the Commission believe. Rather, APC generalizes from unrepresentative, "worst case" interference scenarios. The Commission should reject conclusions predicated on such tenuous extrapolation.

- PCS can support five market participants per service area.

Licensing a larger number of PCS competitors with smaller spectrum blocks comports with the Commission's long-standing policy of disavowing regulatory prescience in favor of marketplace determinations. This policy is particularly apt in the PCS context, since the Commission does not know, nor can it safely predict, optimal PCS allocations.

Even if it develops that some smaller markets will not support five licensees, it makes no sense for the Commission to engineer a market structure to some hypothetical and necessarily imperfect "average" scenario. This would sacrifice competition needlessly in those markets which can support a larger number of licensees: A "one-size-fits-all" allocation approach fits no one.

The better approach is for the Commission to embrace a modular allocation scheme by assigning 20 MHz apiece to five licensees and thereafter allowing marketplace forces to tailor optimal spectrum and economic configurations based on the idiosyncracies of each PCS service area. The PCS blocks initially assigned could thereafter be aggregated or subdivided in response to technical requirements and consumer demand.

- Cellular MSAs/RSAs are not too small to serve as PCS service areas.

The smaller size of MSAs/RSAs is actually an asset in the PCS context. PCS appears at the moment to be primarily a microcellular-based, locally provided service that would be best accommodated by the multiple local service areas comprising the MSA/RSA scheme. If, in fact, any aspect of PCS ultimately evolves into a regional or even nationwide service, technology and the emergence of roaming standards, fueled by market demand, will facilitate interoperability and forge the seamless networks to accommodate such services at that time.

The licensing delay experienced by cellular was caused not by the number of MSA/RSA areas but by other exogenous factors, most notably the extensive permutations and boundary adjustments these areas underwent to customize them for wireless mobile services. CTIA submits as part of its Reply a graph demonstrating that once the MSA/RSA areas were fully defined and customized, the actual assignment of cellular licenses proceeded quite rapidly. Because MSAs/RSAs are so well-suited for PCS, PCS licensing can begin at once, and will move quickly, if MSAs/RSAs are selected for PCS.

Conversely, adopting any other service area scheme will necessarily require the very same delay-intensive customization process that MSAs/RSAs have already completed.

Some have also argued for a "national consortium" licensing scheme. Such proposals delegate FCC statutory responsibilities to two or three private entities, who thereafter would handpick participants in this important new technology. Such a result is plainly contrary to law and to the public interest.

- Cellular providers do not possess sufficient spectrum to provide competitive PCS services.

Studies conducted by CTIA reveal that cellular carriers will need all 25 MHz of their existing spectrum simply to meet the growing needs of both current and new users of cellular communications. In many major urban markets, cellular systems are operating at or near capacity with penetration rates of only 3%. While digital technology will alleviate the cellular congestion problem somewhat, cellular carriers cannot take full advantage of this technology because of their ongoing commitments to support analog and digital cellular subscribers and to accommodate roamer customers. Even under the most optimistic scenario, cellular carriers will have at best 5 MHz and at worst no excess spectrum for PCS-type services.

- The cellular industry is performing competitively, and the Commission should promote, not prohibit, any efficiencies the cellular industry may be able to capture.

To present a more accurate portrayal of the competitive performance of the cellular industry, CTIA submits an economic analysis from Dr. Stanley M. Besen, Dr. Robert J. Larner, and Dr. Jane Murdoch. The authors conclude that a review of the cellular

industry's performance provides the kind of evidence that "economists associate with a young industry driven by market forces and developing in a competitive context." Further, in its initial comments CTIA submitted an analysis from the same authors which examines in detail the economic consequences of cellular entry into PCS. The authors conclude that under a variety of assumptions regarding the future evolution of PCS a portion of the PCS spectrum can be acquired by incumbents with no threat to competition.

Finally, to exclude cellular entry into PCS because of cellular's success would be the worst form of public policy. To penalize them based on their successful innovation through years of investment and hard work would create incentives for would-be market leaders to compete less aggressively for fear that their continued success would be undermined by governmental fiat. Public policy should encourage technological innovation, investment, and hard work, not penalize it.

* * *

CTIA strongly urges the Commission to ignore the proposals of commenters that rely on mythical assumptions buttressed only by conclusory logic and to look instead to its own precedent, the analyses of well-respected economists, and the dictates of common sense. These indicators commend the adoption of a flexible modular approach to PCS licensing that disavows governmental exclusions or set-asides and champions open entry policies and marketplace forces.

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CELLULAR TELECOMMUNICATIONS INDUSTRY ASSOCIATION

The Cellular Telecommunications Industry Association ("CTIA") files its Reply Comments in the above-captioned proceeding. CTIA reiterates its strong support for the implementation of flexible regulatory policies, based on market forces rather than Commission clairvoyance, in the licensing of Personal Communications Services ("PCS").

The record reflects an overwhelming consensus that such a flexible regulatory approach will best achieve the Commission's goals for PCS, as stated in its Notice of Proposed Rulemaking ("Notice"). There is, nonetheless, some disagreement in the areas of spectrum allocation, PCS eligibility, and PCS service areas. Sound public policy should not be derailed by certain myths that have tended to obfuscate the central principles which should guide Commission decisions

in these areas. CTIA confines these Reply Comments to issues in these three areas.

I. INTRODUCTION

CTIA strongly urges the Commission to adopt a licensing scheme that will allocate 20 MHz to each of five PCS licensees. Consumer welfare should not be sacrificed by unsupportable claims that there would somehow be "too much" competition. Nor is there any persuasive evidence that PCS operators will need more than 20 MHz to operate efficiently. For example, APC's spectrum study can reach its predetermined outcomes only by 1) making the unrealistic assumption that no microwave operator will relocate, 2) hypothesizing overly conservative spectrum guard bands using a methodology at odds with APC's own patented technology (for which it successfully obtained a pioneer's preference), and 3) contriving to study only the most congested, and therefore the most atypical markets. A modular approach which will permit subsequent consolidations (where efficient and pro-competitive to do so) will far better serve the public interest.

CTIA also submits that cellular company participation in PCS would readily improve consumer welfare. The myth that cellular already has "enough" is flatly wrong. As analyses provided by CTIA, infra, demonstrate, cellular carriers will need all 25 MHz of their existing spectrum to meet the growing needs of current and new users of cellular communications.

Even under optimistic assumptions of the capacity derivable from digital technologies, cellular carriers' commitments to analog and digital customers will leave only 5 MHz for PCS services.

Similarly, characterizations of the cellular marketplace as noncompetitive are wrong and misleading. As the attached analysis of Dr. Stanley M. Besen explains, the actual performance of the cellular industry exhibits numerous welfare-producing characteristics, including rapid growth and consumer acceptance, declining costs, technical dynamism, and heterogeneous product offerings. Further, even under traditional antitrust analysis, cellular participation in a five-licensee PCS scenario should be viewed as pro-competitive.

Third, the Commission should license PCS in areas already defined and refined in earlier wireless proceedings: MSAs/RSAs. Any alternative to MSAs/RSAs invites the likelihood of substantial delay while new proceedings reinact the process of reformulating service areas which delayed cellular licensing during the 1980s. Arguments for national consortia are in reality attempts to relegate the FCC's licensing authorities to private entities, a result consistent with neither the law nor sound policy.

CTIA reiterates its support for the flexible regulatory approach proposed in the Notice. The Commission should move promptly to adopt PCS rules which will best promote optimal market outcomes.

II. SPECTRUM ALLOCATION SCHEME

A. Licensing Five PCS Providers Per Service Area With 20 MHz Each Will Best Promote the Commission's Goals.

The record reflects widespread support for assigning 20 MHz to each of five PCS licensees per market.¹ Licensing five PCS providers with 20 MHz will best foster the Commission's goals, particularly its desire to encourage competition and broad participation and to promote efficient spectrum use.

1. The Licensing of Five PCS Providers Fully Comports with the Commission's Preference for Outcomes Based on Market Forces, Not Regulatory Fiat.

Licensing a larger number of PCS competitors with smaller spectrum blocks fully comports with the Commission's long-standing policy of disavowing regulatory prescience in favor of marketplace determinations.² This policy is particularly apt in the PCS context, since the Commission does not know, nor can it adequately predict, the optimal PCS

¹ See, e.g., AT&T at 10; Alltel at 16; BellSouth at 20; Centel Corp. at 8-10; Cincinnati Bell at 14; GTE at 28; NTIA at 5-6; Pennsylvania Public Utilities Commission at 4-7; U.S. Department of Justice (hereinafter "DOJ") at 15; U.S. Small Business Administration at 10-12; USTA at 30.

² See, e.g., Notice at ¶¶ 2 and 24 ("In licensing mobile services, the Commission has squarely placed its faith in competitive markets.... Our experience suggests that we should adopt a PCS regulatory structure that allows similar flexibility [and] that responds to the needs of the marketplace.").

allocation scheme. Even if it develops that some smaller markets will not support five licensees, it makes no sense for the Commission to engineer a market structure to some hypothetical and necessarily imperfect "average" scenario. This would sacrifice competition needlessly in those markets which can support a larger number of licensees. The better approach is for the Commission to embrace a modular allocation scheme by assigning 20 MHz apiece to five licensees and thereafter allowing marketplace forces to tailor optimal spectrum and economic configurations based on the idiosyncracies of each PCS service area.

This modular allocation approach has the ready support of both the telecommunications and antitrust experts of the Executive Branch. See NTIA at 5-6 ("NTIA recommends that the Commission establish a starting point that errs on the side of more, rather than fewer, service providers."); DOJ at 15 ("The Commission should not be unduly concerned, at the initial allocation stage, that it might create too many licenses out of the 110 MHz it has proposed to allocate to PCS...."). More recently, a working paper issued through the Office of Plans and Policy has fully endorsed this modular allocation approach:

[T]he policy objective of extending the benefits of competition is still best served by having more licenses than actual suppliers.... First, it is far better for several licenses to be issued, and only one or two new systems constructed, than for only one or two licenses to be authorized and economic forces never given the chance to determine the appropriate number of competitors. Second, the threat of competitive entry by the other licensees will serve as

a market check upon the prices, service quality, and service options offered by PCS providers. Third, if PCS is defined broadly as suggested above, then licensees will still have the flexibility and incentives for innovation to find a niche market for wireless services and otherwise use the spectrum in productive fashion. Fourth, a smaller number of licenses (which implies a larger license size) could increase the acquisition costs beyond the reach of smaller firms, even though the additional spectrum may not be essential to deliver service.³

Further, a modular allocation approach is consistent with the Commission's cellular licensing precedent. In its cellular orders, the Commission rejected proposals to grant 75 MHz or 40 MHz to one cellular licensee per market, finding that it could best create a competitive cellular industry by assigning a smaller amount of spectrum -- 20 MHz -- to each of two licensees. While it recognized that smaller spectrum blocks portended higher investment and consumer costs, the Commission nevertheless opted to err on the side of conservative assignments and to rely on market forces rather

³ David P. Reed, Putting It All Together: The Cost Structure for PCS (hereinafter "OPP Cost Study")(1992) at 52. See also Affidavit of Alfred E. Kahn, Attachment B to Comments of Bell Atlantic (hereinafter "Kahn Affidavit") at 7 ("[T]he prudent policy would be to run the risk of erring on the side of too many licenses each with too small an allocation, in the interest of maximizing the likely effectiveness of competition."); Stanley M. Besen, Robert J. Larner and Jane Murdoch, An Economic Analysis of Entry By Cellular Operators Into Personal Communications Services, Attachment A to Comments of CTIA (hereinafter "Besen, et al.") at 25-28.

than regulatory fiat to determine whether additional spectrum was indeed required.⁴

At the heart of this allocation approach was the Commission's realization that "innumerable unknowns, ranging from new systems technology to innovative service offerings and future market projections," characterized the then-nascent cellular industry.⁵ The principles that drove the Commission's cellular spectrum allocation obtain with even greater force in the PCS context. Unlike cellular, which, despite its "innumerable unknowns," was a fairly well-defined service that the Commission had spent many years studying, PCS' very definition is an unknowable quantity at this early stage in its development. Given these fundamental uncertainties inherent in PCS, the Commission should refrain from arbitrarily constraining PCS development by over-assigning PCS spectrum to a limited number of providers at the outset. Instead, the Commission should embrace a modular approach by assigning 20 MHz apiece to five licensees and thereafter allowing marketplace forces to determine optimal spectrum and economic configurations. Combined with ready transferability, this approach is self-correcting.

⁴ Cellular Communications Systems, 86 F.C.C. 2d 469, 479-480 (1981)("Because of the speculative nature of any attempt to predict the cellular market size, the Commission believes it should be cautious in making final allocations for cellular systems.").

⁵ Id. at 479.

Finally, the scale economies inherent in PCS are simply not large enough to warrant fewer licensees and the concomitant sacrifice to competition and diversity. The OPP Cost Study finds only modest economies of scale in PCS provisioning, and concludes on this basis that five or six PCS providers in each service area should be licensed:

[T]he economies of scale for a PCS network appear to be largely exhausted above a 20 percent penetration rate for all spectrum block sizes above 5 MHz.... These results provide no justification for limiting the number of licenses to the market due to the characteristics of the cost function.... These results also demonstrate that the marginal cost of introducing another supplier decreases with each successive entrant. Consequently, allowing up to six suppliers would be reasonable given the small incremental costs of adding a fourth, fifth, and sixth supplier at penetration levels above 20 percent.⁶

2. 20 MHz per Licensee is Sufficient to Provide Competitive PCS Services.

A few commenters suggest that licensing fewer PCS providers with more than 20 MHz is necessary to avoid interference with fixed microwave incumbents.⁷ While the majority of these commenters offer little more than conclusory statements as "proof" of the interference that purportedly would flow from 20 MHz spectrum assignments, a few commenters

⁶ OPP Cost Study at 49-52, 56.

⁷ See, e.g., Adelpha at 3; American Personal Communications (hereinafter "APC") at 10; Associated PCN at 2-4; Hughes at 5; Interdigital at 3-7; MCI at 5-6; Motorola at 11; Omnipoint at 9-10.

prematurely, would contravene the Notice's broad participation goals and is, quite simply, bad public policy.¹¹

The APC Study, which has often been touted as support for higher PCS spectrum assignments, suffers from several of the aforementioned problems. Unrealistic assumptions permit APC to assert dire (but equally unrealistic) conclusions. The study concludes that access to 20 MHz provides average spectrum availability of only 12.9 MHz and that, on average, 28% of all areas have no spectrum available for PCS.¹² But APC's spectrum estimates assume no relocation of OFS operators, although such relocation will undoubtedly occur. CTIA, in fact, recalculated the APC numbers with a very conservative assumption of three microwave links relocated in each of the top 11 cities. The results, as shown in Chart A, reveal that in a market of five 20 MHz licenses, on average less than 10% of the areas would have no spectrum available for PCS rather than the 28% reported

¹¹ To put the interference problem into proper perspective, Telesis Technologies Laboratory has developed a model to estimate the amount of spectrum available in the 1850-1990 MHz frequency band given the presence of microwave users. Not surprisingly, this study demonstrates that the interference situation is not nearly as dire as some commenters would have the Commission believe, even in some of the most congested markets. For example, the study's model predicts that about 120 MHz out of this band could be used throughout 90% of the San Francisco area, and that 100 MHz could be used throughout 90% of the Los Angeles area. See Telesis Technologies Laboratory, Experimental License Progress Report to the FCC, February, 1992.

¹² APC Study at 25-27.

Percentage of Areas with No Spectrum Available for PCS

3 Microwave Links Relocated

	2 Lic/40 MHz	3 Lic/30 MHz	5 Lic/20 MHz
New York	1.5	2.6	5.3
LA	13.7	17.5	26.9
Chicago	12.0	16.6	17.0
DC	.2	.1	.5
Philadelphia	.7	2.0	1.9
Detroit	0	.3	2.3
Boston	0	0	.2
Dallas	.6	2.4	6.6
Houston	14.0	17.8	22.2
Miami	3.5	2.7	7.3
San Francisco	9.6	11.1	15.1
AVERAGE	5.1	6.6	9.6

by APC. CTIA has calculated that this figure roughly translates into 17 MHz of available spectrum for a 20 MHz PCS assignment.

The actual capacity of this 17 MHz would be increased still further by 1) higher levels of OFS relocation, 2) the higher frequency reuse factor inherent in PCS networks' microcellular design, and 3) digital compression and modulation techniques which PCS licensees, unlike cellular carriers, will be able to employ fully from the outset. In short, notwithstanding APC's pessimistic assumptions, 20 MHz PCS blocks provide the dual benefit of affording sufficient spectral capacity to licensees¹³ while simultaneously increasing licensee incentives to use spectrum efficiently.¹⁴

Moreover, the "exclusion zones" or guard bands which APC calculates to protect OFS users are overly conservative.¹⁵

¹³ Despite the incredulous claim of Omnipoint that digitally based PCS will actually "require more bandwidth per PCS operator than cellular's 25 MHz" (Omnipoint at 6), it is elementary that digital encoding and compression techniques will significantly increase spectrum capacity, thereby requiring less spectrum than the 25 MHz assigned to 800 MHz analog-based cellular providers. See, e.g., American Mobile Telecommunications at 4; GTE at 30; McCaw at 9.

¹⁴ See, e.g., Bell Atlantic at 32-35; McCaw at 6-9; Power Spectrum at 4; Southwestern Bell at 10.

¹⁵ APC's "exclusion zones" were calculated as follows: If APC's computer model detected any interference in a grid point, bins cochannel with the grid point were removed from the list of bins available for PCS, as were any bins

(Footnote continued on page 12)

It is unlikely, even using today's technology, that these over-sized exclusion zones are necessary. More importantly, the very method used to calculate these zones is one which APC openly disavows in its study¹⁶ and which is wholly inconsistent with APC's patented FAST System of interference calculation and avoidance for which it was awarded a tentative pioneer's preference.

Perhaps the most persuasive indicator of the suitability of 20 MHz blocks for PCS is the fact that certain 2 GHz microwave users, whose PCS interference concerns are the most pressing, wholeheartedly support 20 MHz spectrum assignments. The American Petroleum Institute ("API"), a national trade association representing over 200 2 GHz incumbents, is one such supporter:

By allocating spectrum to PCS in 20 MHz blocks, the Commission will provide adequate spectrum resources to PCS interests while minimizing

15 (Footnote continued)

"adjacent" to the grid point. APC's definition of "bin size" as 2.5 MHz and "adjacent" as "two bins above and two bins below the grid point" are unrealistically conservative. Moreover, its exclusion of cochannel and adjacent bins upon the slightest detection of interference exaggerates the study's "findings" of average PCS spectrum unavailability. APC Study at 12 and 14.

16 APC Study at 13 ("APC does not advocate that operating PCS systems use simple exclusion zones to provide interference protection to OFS microwave licensees.").

potential interference problems between PCS and
POFS interests....¹⁷

Moreover, API and others correctly point out that 20 MHz blocks will best avoid the burdensome multi-party relocation negotiations caused by other allocation schemes, such as 30 MHz block assignments, which are inconsistent with the current channelization of the 2 GHz band.¹⁸ Since point to point microwave users have 10 MHz allocations in each direction, a PCS provider with 20 MHz of spectrum will only have to negotiate the relocation of one incumbent. With a 30 MHz allocation (15 MHz in each direction), coordination would be much more difficult due to two adjacent PCS blocks overlapping a single OFS channel or conversely a single PCS block overlapping two adjacent OFS channels.¹⁹ The OPP Cost Study explores this advantage of 20 MHz blocks in full:

One side effect of having the 2 GHz band populated with incumbent microwave users is that spectrum allocation sizes that are multiples of 20 MHz are attractive. The existing channelization plan for microwave users in this region generally allocates spectrum in 10 MHz channels. Consequently, relocation negotiations are likely to be more difficult when the spectrum allocation of the microwave user overlaps two separate PCS licenses because one licensee could attempt to gain a "free ride" at the expense of another licensee trying to move the microwave

¹⁷ API at 5.

¹⁸ See API at 6. See also BellSouth at n. 44; Vanguard Cellular at Appendix A; OPP Cost Study at 54.

¹⁹ The pairing of PCS allocations at the same 80 MHz offset used by OFS users also would allow the adoption of frequency division duplex or time division duplex operation as desired by systems engineers.

incumbent. A PCS license size that is a multiple of 20 MHz should eliminate most cases in which this situation could occur. A 30 MHz spectrum allocation size is likely to encounter this situation to some extent since the allocation is separated into two 15 MHz allocations, one for each direction of transmission, which will have to overlap onto more than one 10 MHz microwave channel.²⁰

Finally, an allocation scheme of five PCS licensees with 20 MHz apiece actually comports with Telocator's estimated spectrum requirements for PCS licenses.²¹ Although the Telocator study does not consider a five-provider market in its analyses, Telocator re-ran its model pursuant to a request by CTIA. The Telocator model was recalculated for five PCS operators using mean rather than maximum values for PCS traffic density. The results indicated that a five-provider market requires only 108 MHz of spectrum, or about 20 MHz per provider.

B. PCS Licenses Should Be Fully Transferable, In Whole or In Part.

To provide for those situations where PCS operators need additional spectrum either to avoid interference, or to offer higher bandwidth services such as multimedia, or to rectify an overly fragmented wireless market, the Commission should explicitly permit PCS-allocated spectrum to be readily transferable in whole or in part. Under such a market-driven

²⁰ OPP Cost Study at 54.

²¹ See Telocator Spectrum Estimates for PCS Report: An Analysis of Clear Spectrum Required to Support Emerging PCS Services (May 28, 1992).

mechanism, the PCS spectrum blocks initially assigned could be aggregated and subdivided in response to technical requirements and consumer demand, thereby compensating for the Commission's inability to predict outcomes by readily identifying allocation mistakes and affording quick and constant market correction.²² The ready transferability of whole and partial PCS licenses has widespread support in the record²³ and is endorsed in the OPP Cost Study:

While allowing licensees to obtain only complete licenses would be the most administratively simple solution, the market could be made more efficient if licensees are allowed to lease or sell portions of their allocation, instead of having to face an all-or-nothing proposition.²⁴

* * *

Any approach here is uncertain. The Commission should err on the side of a larger number of competitors and smaller spectrum blocks and accordingly assign 20 MHz of PCS spectrum to each of five licensees per market. This approach is consistent with Commission precedent and, more importantly, is

22 CTIA presented a full description of and legal justification for unrestricted transferability in its initial comments at 21-28.

23 See, e.g., AT&T at 4; Ameritech at 40; Bell Atlantic at 34-36; BellSouth at 34, 57-59; Cellular Communications at 21; GTE at 32; NTIA at 5-8, 22; NYNEX at 24; Pacific Telesis at 35; Sprint at 7; U.S. West at 17-18.

24 OPP Cost Study at 54-55. This market-based spectrum aggregation approach has been espoused by other prominent economists, as well. See, e.g., Kahn Affidavit at 8 and n. 7; Besen, et al. at 25-28.

readily "self-correcting," since the Commission, by authorizing the ready transferability of whole or partial PCS licenses, can confidently look to marketplace forces to drive the reconfigurations required to achieve optimal spectrum arrangements.

III. ELIGIBILITY

A. The Commission's Longstanding Presumption Favoring Open Entry Should Control Here to Afford Cellular Providers Unrestricted Eligibility for PCS Licenses.

In its initial comments, CTIA highlighted the fact that both economic theory and Commission precedent support a general presumption favoring open entry and eschewing eligibility barriers.²⁵ CTIA described how the Commission has progressively removed previously imposed entry barriers, preferring instead to allow market forces to control entry, exit, and the extent of competition.²⁶ Especially relevant to this proceeding is the consistency with which the Commission has applied this general presumption to permit incumbent service providers to expand and integrate into new services.²⁷

25 See CTIA at 60-62.

26 Id. at 61.

27 See, e.g., Digital Audio Radio Services, General Docket 90-357, NPRM and Further NOI, 1992 FCC Lexis 6244 (Released November 6, 1992)(proposing that existing broadcasters should be eligible for DARS participation); Advanced Television Systems, 7 FCC Rcd 3340 (1992)

(Footnote continued on page 17)

This longstanding presumption should govern here, as well, and afford cellular providers the ability to acquire PCS spectrum both within and outside their service areas. Unrestricted cellular entry would not only comply with the recommendations of the overwhelming majority of commenters²⁸ and well-respected economists,²⁹ but would also promote integration efficiencies without inducing undue market concentration or anticompetitive behavior.

27 (Footnote continued)

(authorizing TV broadcasters to provide HDTV service); Instructional Television Fixed Service, 94 F.C.C. 2d 1203 (1983)(allowing telephone and cable companies to provide wireless cable service when MMDS authorized); Direct Broadcast Satellite Systems, 90 F.C.C. 2d 676 (1982) (rejecting commenters' proposals to bar certain parties from DBS participation, opting instead to let market forces make such determinations); Digital Termination Systems, 86 F.C.C. 2d 360 (1981)(permitting telephone companies to provide Digital Electronic Message Service); Cellular Communications Systems, 86 F.C.C. 2d 469 (1981) (establishing LEC set aside for one of two cellular licenses in each market).

28 See, e.g., Alltel at 5-7; Ameritech at 14-15; Anchorage Telephone at 5; Bell Atlantic at 5-12; BellSouth at 43-49; Cellular Communications at 7-10; Centel at 14-16; Century Cellnet at 2-7; Comcast at 8-11; GTE at 36-42; Interdigital at 12-15; McCaw at 24-33; Point Communications at 3; U.S. Small Business Administration at 21-23; Utilities Telecommunications Council at 33; Vanguard Cellular at 16.

29 See generally Besen, et al. at 35-37. See also Richard Schmalensee and William Taylor, Assigning PCS Spectrum: An Economic Analysis of Eligibility Requirements and Licensing Mechanisms, attached to Comments of BellSouth as Appendix IV (hereinafter "NERA Eligibility Study") at 8-21; Kahn Affidavit at 8-11.